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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,846	01/28/2002	Joseph L. Dallas	CVI-0004	3708

23413 7590 05/30/2003

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EXAMINER

ZARROLI, MICHAEL C

ART UNIT

PAPER NUMBER

2839

DATE MAILED: 05/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/058,846

Applicant(s)

DALLAS ET AL.

Examiner

Michael C. Zarroli

Art Unit

2839

CH

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 36-42 is/are allowed.
- 6) ☒ Claim(s) 1-13, 15-18, 20-28, 30-33 and 35 is/are rejected.
- 7) ☒ Claim(s) 14, 19, 29 and 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Oath/Declaration

1. Please clear up confusion that exists as to who is the first named inventor.

The declaration shows Joseph Dallas as the first named inventor. All subsequent paperwork shows Ralph Jameson as the first named inventor.

Drawings

2. Application was filed with informal drawings. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the **metal coating** for the fibers, guides and one or more via holes must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
5. The abstract of the disclosure is objected to because of the implied language. Correction is required. See MPEP § 608.01(b). The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Objections

6. Claim 1 is objected to because of the following informalities: In line 5, "with respective guides" should probably read --within the respective guides--. Appropriate correction is required.
7. Claims 12-13 are objected to because of the following informalities: In claim 12 there's an antecedent problem with "a lower...portion." In claim 13, there's an antecedent problem with "a lower and an upper substrate." Appropriate correction is required.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-2, 4, 6-10, 15-16, 20-22, 24, 26-28, 30-31 and, 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimoji et al.

Shimoji discloses a method for fabricating a fiber array (title). A substrate is provided (fig. 1a) with a plurality of guides (3) that penetrate through the substrate (fig. 1b). Shimoji discloses that this substrate has via holes (6) in fluid communication with the guides and that each optical fiber (8) is disposed within one of the guides (col. 4 lines 31-40). Finally, Shimoji discloses that an adhesive (7) is injected into one or more via holes to fix the fibers within their guides (col. 4 lines 38-41).

Regarding claims 2 & 22 Shimoji discloses that each one of the guides is in communication with a corresponding via (claim 2 lines 20-22).

Regarding claims 4 & 24 Shimoji discloses that the one or more via holes are disposed on one side of the substrate (fig. 1b).

Regarding claims 6 & 26 Shimoji discloses that each guide is a through hole (fig. 1b).

Regarding claims 7-8 and, 27-28 Shimoji discloses that the substrate comprises a lower substrate (15) and an upper substrate (16). The lower substrate and upper substrate each have guides corresponding to each other (figures 1a to 1b).

Regarding claims 9 & 10 Shimoji discloses that the fiber positions are adjusted in accordance with a predetermined optical alignment determined by the configuration of the guides in the substrate (col. 3 lines 9-14). Then the adhesive is injected.

Regarding claims 15-16 and, 30-31 Shimoji discloses that the adhesive is a thermally cured epoxy (col. 1 lines 14-15).

Regarding claims 20 and, 35 Shimoji discloses that one or more via holes are in a face of the substrate (fig. 1b).

Regarding claim 21 Shimoji discloses that the adhesive surrounds each fiber (fig. 2).

Claim Rejections - 35 USC § 103

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 3 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimoji et al as applied to claims 1 and 21 respectively and outlined above, and further in view of Yoshiaki (JP56142506).

Shimoji does not disclose that via holes are offset from guides.

Yoshiaki discloses (fig. 3a) via holes (4) offset from guides.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to offset the via holes from the guides of Shimoji as taught by Yoshiaki. The motivation/suggestion for doing so would have been a reduction of holes that could increase environmental effect on the sensitive optical fibers.

13. Claims 5 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimoji et al as applied to claims 1 and 21 respectively and outlined above, and further in view of Yasuhiko (JP5257031).

Shimoji does not disclose that via holes are disposed on two sides of the substrate.

Yasuhiko discloses a substrate with adhesive injection via holes (10) disposed on two sides (fig. 1b).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to put via holes on two sides of the substrate of Shimoji as taught by Yasuhiko. The motivation/suggestion for doing so would have been to be able to inject adhesive from more than one side.

14. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimoji et al as applied to claim 1 above, and further in view of admitted prior art figure 1.

Shimoji does not disclose upper and lower substrate portions with V grooves.

Admitted prior art figure 1 discloses upper (110) and lower (112) substrates with V groove guides that align optical fibers (114) in a predetermined optical alignment.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to redesign the guides of Shimoji to be V groove as taught by figure 1. The motivation/suggestion for doing so would have been that V grooves contain the adhesive better and also permit the entire fiber to be surrounded by the adhesive in a more uniform way.

15. Claims 17 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimoji et al as applied to claims 1 and 21 respectively and outlined above, and further in view of case law.

Shimoji does not disclose that the adhesive is a glass material with a melting temperature less than that of the optical fibers.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to select glass as the material for the adhesive, since it has been held to be within the general skill of a worker in the art to select a known

material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

16. Claims 18 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimoji et al as applied to claims 1 and 21 respectively and outlined above, and further in view of admitted art Ota et al (US 6195495).

Shimoji does not disclose that the adhesive is a solder.

Ota discloses an adhesive of solder (abstract last sentence) for fibers in substrate guides.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use an adhesive made of solder in the method and array of Shimoji as taught by Ota. The motivation/suggestion for doing so would have been to solidify the optical fiber positions. There are some applications where solder is known to be better than just an adhesive.

Allowable Subject Matter

17. Claims 36-42 are allowed over the prior art of record.

18. Claims 14, 19, 29 and, 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

19. The following is a statement of reasons for the indication of allowable subject matter: In combination, the via holes in fluid communication with the channel which is in turn in fluid communication with the guides. In combination, the fibers, guides, and via holes coated with metal. In combination, the mechanical plunger for spreading the adhesive through the via holes and fiber array.

Conclusion

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Zarroli whose telephone number is 703-305-0608. The examiner can normally be reached on 7:30 to 3:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Feild can be reached on (703) 308-2710. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for

After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Art Unit: 2839



Michael C. Zarroli

Examiner

Art Unit 2839

MA

MCZ

May 22, 2003